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May 30, winged female had produced 3 and wingless 8 young.

"	31	"	"	"	"	1	"	"	2	"
June	1	"	"	"	"	0	"	"	2	"
"	2	"	"	"	"	0	"	"	0	"
"	3	"	"	"	"	1	"	"	1	"
"	4	"	"	"	"	0	"	"	3	"
"	5	"	"	"	"	0	"	"	2	"

The wingless female died on the 6th, but the winged female lived on, without issue, until the 11th of June. The period of reproduction being 19 days with the winged female and 21 days with the wingless, the former producing 40 and the latter 89 young.

I found that the young moulted on the second, and began reproducing either late on the seventh or early on the eighth day after birth. The insects and plants were inspected, and the young removed each morning, usually about 8 o'clock, so that the young were the production of the subsequent 24 hours.

## NOTES ON SPIDERS.

BY NATHAN BANKS.

The following pages embrace some miscellaneous notes on spiders of the U. S. First I have given a list of the genera and species omitted from Dr. Marx' Catalogue; next some of the works containing descriptions of new species that have been published since Dr. Marx' Catalogue. Quite a number of synonyms are given and some other notes on species, then follows some keys and descriptions of new species.

### GENERA OMITTED.

*Liocranoides* Keys. Neue Spinnen, III, 1881, place after *Phrurolithus*.

*Glenognatha* Simon. C. R. Ent. Soc. Fr., 1884, place after *Pachygnatha*.

*Myrmecarachne* Walsh. Proc. Am. Ent. Soc. 1864, = *Synemosyna*.

### SPECIES OMITTED.

*Actinopus audouini* Lucas. Ann. Ent. Soc. Fr., 1845, p. 60, Amerique du Nord.

*Micaria limnicune* McCook. Proc. Acad. Nat. Sc., 1884, Description worthless.

*Pythonissa sericata* Koch. Die Arach. d. Drass. Md. = *P. bicolor* Hentz.

*Dictyna philosteichus* McCook. = *D. civica* Lucas.

*Clubiona tibialis* Em. N. Eng. Drass. etc., N. Eng., N. Y., D. C.

*Agræca pratensis* Em. N. Eng. Drass. etc., N. Eng., N. Y.

*Liocranoides unicolor* Keys. Neue Spinnen, III, Mammoth Cave, Ky.

*Theridium lineamentum* McCook. Agric. Ant. Texas, 1879, = *Lathrodectes mactans*.

*Seatoda distincta* Thor. Colo. Aranea, 1877, Colo.

*Crustulina lascivula* Keys. Die Spinn. Am. Therid., 1886, Ga.

*Acrosoma bovinum* Thor. Nya Exotiska Epeirider, 1858, Ala.

*Glenognatha emertoni* Simon. C. R. Ent. Soc. Fr., 1884, Ariz.

*Olios fasciculatus* Simon. Rev. d. Sparass., Calif.

*Lycosa febriculosa* Becker. Ent. Soc. Belg., 1881, La.

*Lycosa vulpina* Em. N. Eng. Lycosidæ, Mass., N. Y.

*Lycosa tigrina*, McCook. Am. Ent. Soc., Vol. VII, p. XI, Mass., N. Y., Pa.

*Tarentula pulchra* Keys. Am. Citigradæ, 1876, N. Am.

Among the literature omitted by Dr. Marx may be mentioned the following:

MCCOOK. — Many short papers on habits of spiders in the Proc. Acad. Nat. Sc. Phil.

BECKER. — Ent. Soc. Belg., 1881. Description of *Lycosa febriculosa*.

HOWARD. — Catalogue of the Invertebrates of S. Carolina. A list of spiders by Dr. Marx embracing many M.SS. names.

WALSH. — Proc. Am. Ent. Soc., 1864. Description of *Myrmecarachne*.

SIMON. — C. R. Ent. Soc. Fr., 1884. Description of *Glenognatha*.

“ — Revision d. Sparassidæ. Description of *Olios fasciculatus*.

THORELL. — Nya Exotiska Eperider. Descriptions of *Acrosoma bovinum* and *Argiope avara*.

LUCAS. — Ann. Ent. Soc. Fr., 1845. Description of *Actinopus audouini*.

Since the publication of Dr. Marx catalogue; spiders of the United States have been described in the following literature:

BANKS. — Spider Fauna of Upper Cayuga Lake Basin. Proc. Acad. Nat. Sc. Phil., 1892.

“ — N. Am. Dysderidæ, Can. Ent., 1891.

CURTIS. — A New Jumping spider. Zoe, 1893, Jan.

EMERTON. — New England Spiders, Fam. Attidæ. Conn. Acad. Arts and Sciences, 1891.

EMERTON — New England Spiders, Fam. Thomisidæ. Conn. Acad. Arts and Sciences, 1892.

FOX. — New species of Ceratinella. Ent. Soc. Wash., 1891.

KEYSERLING & MARX. — Die Spinnen Amerikas. Part IV, Epeiridæ.

MARX. — A Contribution to the knowledge of North American Spiders. Ent. Soc. Wash., 1891.

MCCOOK. — The Spiders of the United States. — Orbweavers, Vol. II, p. 135.

SIMON. — Descr. espèces et genres nouveaux d. l. famille d. Avicularidæ. Ann. Soc. Ent. France, 1891.

“ — Liste d. espèces d. l. fam. d. Aviculariides, etc. Actes d. l. Soc. Linn. d. Bordeaux, 1891.

STONE. — The Lycosidæ of Penn. and N. Jersey. Proc. Acad. Nat. Sc. Phil., 1891.

Since my last paper (Ent. News, Dec. 1891.) I have noticed the following synonymy:

*Drassus saccatus* Em. is *D. neglectus* Keys.

*Clubiona lenta* Bks. is *C. pygmæa* Bks.

*Thargalia perplexa* Bks. is *T. pinnata* Em.

*Thargalia fallax* Bks. is ♂ of *T. descriptus* Hentz.

*Cicurina complicata* Em. is *C. arcuata* Keys.

*Hahnia bimaculata* Em. is *H. agilis* Keys.

*Linyphia galbea* Keys. is *Lepthyphantes minuta* Blk.

*Erigone purpurascens* Keys. is *Theridium anglicanum* Hentz.

*Theridium ventillans* Keys. is ♂ of *Theridula sphærula* Hentz.

*Erigone fabra* Keys. is ♂ of *zygia* Keys.

*Tmeticus minutus* Bks. is ♂ of *T. distinctus* Bks.

*Tmeticus luxuosus* Bks. is ♂ of *Loph. venustum* Bks.

*Epeira alba* Keys. is *E. displicata* Hentz.

*Xysticus inornatus* Em. is *Synema bicolor* Keys.

*Misumena georgiana* Keys. is *M. spinosa* Keys.

*Misumena americana* Keys. is ♀ of *M. oblonga* Keys.

*Misumena foliata* Bks. is *M. rosea* Keys.

*Philodromus brevis* Em. is ♂ of *P. minutus* Bks.

*Philodromus pernix* Blk. is *P. vulgaris* Hentz.

*Philodromus obscurus* Blk. is *P. rufus* Walck.

*Thanatus lycosoides* Em. is *T. rubicundus* Keys.

*Lycosa oblonga* Bks. is *L. immaculata* Bks.

*Lycosa rufa* Keys. is ♀ of *L. ocreata* Hentz.

*Lycosa polita* Em. is *Trochosa rubicunda* Keys.

*Lycosa communis* Em. is *L. lepida* Keys. = *L. erratica* Hentz.

*Pardosa nigripalpis* Em. is *P. flavipes* Keys.

*Tetragonophthalma undulata* Keys. is *T. dubia* Hentz.  
*Phidippus gracilis* Keys. is *Philæus princeps* Peck.  
*Phidippus clarus* Keys. is *P. octopunctatus* Peck.  
*Phidippus ruber* Keys. is *P. cardinalis* Hentz.  
*Philæus mexicanus* Peck. is *P. multicolor* Hentz.  
*Icius albovittatus* Keys. is *Philæus militaris* Hentz.  
*Icius vittatus* Keys. is *I. palmarum* Hentz.  
*Icius crassiventer* Keys. is *Dendryphantes octavus* Hentz.  
*Dendryphantes insignis* Bks. is *D. octavus* Hentz.  
*Dendryphantes multicolor* Peck. is *D. rarus* Hentz.  
*Habrocestum splendens* Peck. is *H. decorus* Blk.  
*Salticus fuligineus* Blk. is *Synageles scorpiona* Hentz.  
*Salticus borealis* Blk. is near *Habrocestum cæcatum* Hentz.  
*Prostheclina cambridgii* Peck. is *P. (Attus) aurata* Hentz.  
*Synemosyna noxiosa* Hentz is *Synageles scorpiona* Hentz.

#### OTHER NOTES ON SPECIES.

Simon (Spiders of the Island of St. Vincent, p. 573) proposes *Sergiolus* for *Herpyllus variegata* Hentz. I think it hardly necessary in considering our fauna. *Agræca tristis* Keys. and *A. Walsinghami* Cambr. do not belong to *Agræca* but go in the subfamily *Corinninæ*. Our genera of the subfamily have not been separated. Simon says (Faune d. Arach. d. Senegal) that *Herpyllus discretus* (*sic*) Hentz is a *Tylophora*. *T. ornata* Hentz seems to be a *Corinnomma*. *Frontina* should be changed to *Floronia* Sim. as the former is preoccupied; *Linyphia conferta* Hentz belongs to this genus. *Epeira infumata* Hentz is a *Vixia*. Emerton (New England Thomisidæ) has placed *Xysticus elegans* Keys. ♂ and *X. crudelis* Bks. ♀ under the name of *X. limbata* Keys. The ♂ *X. elegans* and *X. limbata* are certainly quite different species; to what females they belong can only be known by finding them together. *X. brunneus* Bks. is not *X. crudelis*, nor is *X. locuples* Keys. *X. gulosus* Keys. as Emerton asserts. *X. gramineus* Em. is found at Ithaca, N. Y., and on Long Island; I have a young ♀ from D. C.; it may turn out to be *X. emertoni* Keys. *Dicæa lepida* Thorell is a *Misumena*, related to *M. rosea* Keys. *Ebo latithorax* Keys. is found as far north as Michigan. *Habrocestum auratum* Peck is not Hentz' species of that name, I propose for it *agilis*, it is found at Ithaca, N. Y. *Attus auratum* Hentz is Peckham's *Prostheclina*, it occurs in Texas. *Phidippus tripunctatus* Hentz should be called *P. audax* Hentz as the latter was described before the former. I have a ♂ of Emerton's pretty *Euophrys monadnock* from West Cliff, Colorado. What

Peckham and Emerton describe and figure as such is certainly not Hentz' *Salticus epphiatus* for the position of the eyes and shape of the cephalothorax is entirely different; it should be called *albocinctus* Koch; it occurs on L. I. and at D. C. *Synemosyna epphiatus* Hentz, except for the legs, seems to be very close to what Peckham calls *scorpiona* Hentz.

# KEYS AND DESCRIPTION.

Our genera of Drassidæ may be separated as below.

1	{ No dorsal groove . . . . .	(Micarinæ) <b>Micaria</b>
	{ Dorsal groove present . . . . .	(Drassinæ) 2
2	{ Hind row of eyes more or less recurved . . . . .	(Gnaphosini) 3
	{ Hind row of eyes straight or procurved . . . . .	(Drassini) 5
3	{ Head less than one-half as wide in front as in middle . . . . .	4
	{ Head more than one-half as wide in front . . . . .	<b>Gnaphosa</b>
4	{ Mandibles with a toothed plate on the under side . . . . .	<b>Pythonissa</b>
	{ No such plate present . . . . .	<b>Poecilochroa</b>
5	{ A dorsal shield on base of abdomen . . . . .	<b>Echemus</b>
	{ No such shield . . . . .	6
6	{ P. M. E. oval . . . . .	<b>Drassus</b>
	{ P. M. E. round . . . . .	7
7	{ Lower spinnerets longest . . . . .	<b>Prosthesima</b>
	{ Lower spinnerets shorter than upper pair . . . . .	<b>Teminius</b>

Our genera of Clubioninæ may be tabulated thus:

1	{ Two rows of very strong spines under tibiæ I and II . . . . .	(Phrurolithini) 2
	{ Tibiæ I and II not strongly spined . . . . .	(Clubionini) 3
2	{ Lower row of eyes strongly recurved . . . . .	<b>Liocranoides</b>
	{ Lower row of eyes not recurved . . . . .	<b>Phrurolithus</b>
3	{ First pair of legs longest . . . . .	<b>Chiracanthium</b>
	{ Fourth pair of legs longest . . . . .	4
4	{ Lip only one-third shorter than maxillæ . . . . .	<b>Clubiona</b>
	{ Lip not over one-half as long as maxillæ . . . . .	5
5	{ Lower row of eyes procurved . . . . .	<b>Agræca</b>
	{ Lower row of eyes recurved . . . . .	<b>Hilke</b>

The species of *Thargalia* known to me may be separated by the following color characters:

1	{ Legs lineated with black . . . . .	<b>bivittata</b>
	{ Legs not lineated with black . . . . .	2
2	{ Abdomen red with a longitudinal black stripe each side . . . . .	<b>crocata</b>
	{ Abdomen not so marked . . . . .	3
3	{ Black, with a red spot or short stripe at tip of abdomen . . . . .	<b>descripta</b>
	{ Not so marked . . . . .	4
4	{ Without any black . . . . .	5
	{ Black or with black bands . . . . .	6
5	{ Red, without bands . . . . .	<b>amœna</b>
	{ Yellow, with two interrupted white bands . . . . .	<b>aurata</b>

6	{ Anterior femora red . . . . .	<b>trilineata</b>
	{ Anterior femora blackish . . . . .	7
7	{ Posterior femora red or reddish, not black, many light bands on the abdomen. 8	
	{ Posterior femora black . . . . .	9
8	{ Hind legs distinctly black banded . . . . .	<b>ornata</b>
	{ Hind legs not distinctly banded . . . . .	<b>pinnata</b>
	{ One band near base of abdomen . . . . .	<b>agilis</b>
9	{ Many light bands on the abdomen . . . . .	<b>longipalpis</b>

*T. descripta* has been considered the ♀ of *T. crocata*, but such is not the case as I have a ♀ *crocata* similar to the ♂, and very different from *descriptus*. *T. cingulata* is probably *T. trilineata* of which *T. zonaria* appears to be but a variety, *T. marmorata* may be the same as *T. ornata*.

Our genera of Dictynidæ may be distinguished thus:

1	{ Eyes 6 . . . . .	<b>Neophanes</b>
	{ Eyes 8 . . . . .	2
2	{ Legs without spines, cribellum, undivided . . . . .	3
	{ Spines on some legs, cribellum divided . . . . .	4
3	{ A. M. E. very much smaller than the others . . . . .	<b>Prodalia</b>
	{ A. M. E. equal in size to the others . . . . .	<b>Dictyna</b>
4	{ Maxillæ inclined over the lip . . . . .	<b>Amaurobius</b>
	{ Maxillæ straight . . . . .	<b>Titanæca</b>

**Tapinopa**, a genus related to *Linyphia* but differing from all other Linyphiinæ in lacking spines to the legs, occurs in the eastern U. S. It may be described as follows:

**Tapinopa bilineata** n. sp.

Length ♀ 3.5 mm. Cephalothorax pale with a broad black stripe each side, which does not, however, reach the margins; mandibles yellowish, with a spot at base in front and a line at base on the side blackish; sternum brown, blackish on the edges; legs and palpi whitish, a broad band on middle of femur, patella, bands at middle and tips of tibia and metatarsus, black; two black bands on palpi. Abdomen pale, grayish brown, blotched with white, two rows of four spots above, tip with a few chevrons, sides with some oblique stripes, and venter almost wholly, black. Legs 1, 4, 2, 3. Head slightly projecting in front over the mandibles which are obliquely retreating, of large size, and have their lower margins armed with a row of slender spines. Clypeus low. A. M. E. the largest, other eyes about equal; A. M. E. projecting forward and downward on tubercles.

This species lives among grass or leaves close to the ground. It resembles *Stemonyphantes bucculentus* but readily separated by the absence of spines on legs, the structure of its mandibles, and the two rows of spots on the dorsum. The epigynum projects slightly as is common in *Bathypantes*. I have it from Sea Cliff, N. Y. and Washington, D. C.

The Eastern species of *Linyphia* known to me may be separated as below.

- |   |   |  |                    |
|---|---|--|--------------------|
| 1 | { | Cephalothorax with a distinct median stripe . . . . .  | 2                  |
|   | { | Cephalothorax unicolorous . . . . .  | 3                  |
| 2 | { | Legs spotted, abdomen with a median serrate brown stripe, stripe on cephalothorax narrow . . . . .       | <b>phrygiana</b>   |
|   | { | Legs unspotted, abdomen with large black spots, stripe on cephalothorax very broad . . . . .             | <b>marginata</b>   |
| 3 | { | Abdomen marked with chocolate brown on posterior part . . . . .  | <b>variabilis</b>  |
|   | { | Abdomen marked with black . . . . .  | 4                  |
| 4 | { | Abdomen with a broad median black stripe, connected behind by side stripes to the black venter . . . . . | <b>communis</b>    |
|   | { | Abdomen black with a few light spots each side, sometimes connected, ♂ mandibles large . . . . .         | <b>mandibulata</b> |

The species known to me from the Pacific coast may be separated thus :

- |   |   |   |                      |
|---|---|---|----------------------|
| 1 | { | Cephalothorax with a median stripe . . . . .                  | 2                    |
|   | { | Cephalothorax unicolorous . . . . .                           | 3                    |
| 2 | { | Red, legs not spotted . . . . .                               | <b>rubrofasciata</b> |
|   | { | Legs spotted, not red . . . . .                               | <b>phrygiana</b>     |
| 3 | { | Legs banded . . . . .   | <b>digna</b>         |
|   | { | Legs not banded . . . . .                                     | 4                    |
| 4 | { | With a broad median black stripe on abdomen . . . . .         | <b>pusilla</b>       |
|   | { | Abdomen longer, with black lines and an apical spot . . . . . | <b>litigiosa</b>     |

*L. reducta* Keys. is a *Helophora*, closely related to *H. insignis* Blk., *L. arcuata* Keys. is a *Lephtyphantes* and near *L. nebulosus* Sund. *L. brevipes* Keys. is a *Bathyphantes*.

In the Eastern States *L. marginata* and *L. phrygiana* are the most common species; on the Pacific coast *L. litigiosa* and *L. digna* seem to be the two most common forms.

The males of the species of *Ceratinella* known to me may be separated by the following key:

- |   |   |   |                    |
|---|---|---|--------------------|
| 1 | { | The head with a transverse fissure . . . . .  | 2                  |
|   | { | Head even, no fissure . . . . .   | 4                  |
| 2 | { | S. E. on tubercles . . . . .  | <b>bulbosa</b>     |
|   | { | S. E. not on tubercles . . . . .  | 3                  |
| 3 | { | Dorsal shield very distinct . . . . .   | <b>fissiceps</b>   |
|   | { | Dorsal shield indistinct . . . . .  | <b>atriceps</b>    |
| 4 | { | Basal shield covering large part of venter . . . . .                                      | 5                  |
|   | { | Basal shield much smaller . . . . .   | 6                  |
| 5 | { | Tube of palpus shorter than the tarsus . . . . .  | <b>micropalpis</b> |
|   | { | Tube of palpus longer than the tarsus, smaller species but with a larger palpus . . . . . | <b>minuta</b>      |
| 6 | { | Tibia of palpus with a long slender projection . . . . .                                  | 8                  |
|   | { | Tibia of palpus with a short projection . . . . .   | 7                  |



7	{	The projection very broad, not narrowed toward tip . . . . .	<b>lætabilis</b>
		The projection narrowed from base to tip . . . . .	<b>læta</b>
8	{	P. M. E. less than diameter apart . . . . .	<b>melanocnemis</b>
		P. M. E. more than diameter apart . . . . .	9
9	{	Color dark gray or blackish . . . . .	10
		Color pale yellow or reddish . . . . .	11
10	{	Tibial hook black, stout, cephalothorax very dark . . . . .	<b>brunnea</b>
		Tibial hook pale, slender, cephalothorax lighter . . . . .	<b>placida</b>
11	{	Black of cephalothorax extends back to dorsal groove, very small white species . . . . .	<b>pygmæa</b>
		Black of cephalothorax confined to eye-region . . . . .	12
12	{	Tibial hook with two rounded teeth on side, narrowing toward the tip, cephalothorax yellow . . . . .	<b>emertoni</b>
		Tibial hook without such teeth, broad at tip, cephalothorax reddish . . . . .	<b>similis</b>

*Ceratinella mæsta* Bks. is a *Lophocarenum*, the only true species of *Lophocarenum* described from U. S. *Ceratinella annulipes* Bks. does not belong to the genus, I have a male from Poughkeepsie, N. Y., collected by Mr. Van Ingen, it is similar to the female, its palpus shows some relation to the Theridinae; I know of no genus for it. Simon (Arach. d. France) has called our *Ceratinella Ceraticelus*; but I consider that the name *Ceratinella* was given not so much to supplant *Ceratina* (preoccupied) as it was to designate the species placed by its author (Emerton) under it. The European forms called *Ceratina* are thus without a genus, I propose for them *Ceratinodes*. My *Ceratinella formosa* is not a true *Ceratinella*, I propose for it *Idionella* distinguished by the position of the horny shield. I have collected it on Long Island, N. Y.

The females of our species of *Acrosoma* are separable thus:

Abdomen with ten spines, three on each side and four at tip . . . . .	<b>rugosa</b>
Abdomen with six spines, two on each side and two large ones at tip . . . . .	<b>spinea</b>
Abdomen with four spines, all at tip . . . . .	<b>mitrata</b>

In the *Prairie Farmer* 1861, p. 168, "Vespa" (Cyrus Thomas?) mentions *Gasteracantha spinicauda*, this is a synonym of *Acrosoma spinea*. *Acrosoma bovinum* Thorell is a synonym of *A. spinea*.

Our genera of the Tetragnathinae may be separated as follows:

1	{	With a ventral furrow . . . . .	<b>Glenognatha</b>
		No ventral furrow . . . . .	2
2	{	Abdomen not twice as long as wide, not much longer than the cephalothorax . . . . .	<b>Pachygnatha</b>
		Abdomen more than twice as long as wide, much longer than the cephalothorax . . . . .	3
3	{	S. E. not farther apart than M. E. . . . .	<b>Tetragnatha</b>
		S. E. farther apart than M. E. . . . .	4

- 4 { Spinnerets at the end of abdomen . . . . . **Eugnatha**  
 { Abdomen projecting beyond spinnerets in a tail . . . . . **Eucta**

Our species of the last three genera may be separated as in the following keys. Some species are very common and often noticed by all observers of nature. The webs are usually nearly horizontal, but sometimes quite oblique. The genital characters are nearly the same throughout, so that young forms are often as easily determinable as adult ones.

**Tetragnatha** ♂.

- Tibia of palpus barely longer than patella . . . . . **laboriosa**  
 Tibia of palpus twice as long as patella  
 Fang of mandibles undulate . . . . . **grallator**  
 Fang of mandibles an even curve . . . . . **extensa**

**Tetragnatha** ♀.

- Abdomen silvery, S. E. separated, L. S. E. smaller than the others, small species **laboriosa**  
 Abdomen darker, S. E. closer together, equal  
 Mandibles as long as cephalothorax . . . . . **grallator**  
 Mandibles two-thirds as long as cephalothorax . . . . . **extensa**

**Tetragnatha grallator** *Hentz.*

The female has the abdomen enlarged near the base; the color darker than is usual in the group. The male varies much in size. Length of female 10—12 mm. Common in the Eastern States and Texas.

**Tetragnatha extensa** *Linn.*

Smaller than *grallator* and the abdomen shorter. The colors are often quite dark, the cephalothorax with dark stripes. Western specimens have the tibial joint of the palpi shorter than the eastern ones; and are usually darker. Length of female 8—10 mm.

This is a boreal species, crossing our country from Maine to Washington State. In the north it is the most common species of the group.

**Tetragnatha laboriosa** *Hentz.*

The female usually has a silvery abdomen, with a dark oblique line each side, and two or three silvery stripes on the dark venter. Sometimes there is a folium on the abdomen. The male is the smallest of the subfamily. Western males have the abdomen a little thicker than eastern ones. Length of female 6—8 mm.

Probably the whole United States; I have it from N. Eng., N. Y., Mich., D. C., La., Fla., Tex. and Wash. State.

*T. illinoiensis* Keys., and *T. fluviatilis* Keys., I consider as belonging to this species; both were described from females.

### **Eugnatha ♂.**

Tibial joint of the palpus not longer than patella, mandibles shorter than the cephalothorax . . . . . **vermiformis**

Tibial joint of the palpus twice as long as patella

Mandibles shorter than the cephalothorax, a large tooth on the inner margin, outer tooth bifid at tip . . . . . **straminea**

Mandibles as long as the cephalothorax, all teeth on inner margin small, outer tooth not bifid . . . . . **pallida**

### **Eugnatha ♀.**

Maxillæ not reaching to the end of fang, mandibles projecting almost horizontally **pallida**

Maxillæ reaching to end of fang, mandibles projecting more vertically:

Outer side of mandibles nearly straight . . . . . **vermiformis**

Outer side of mandibles concave . . . . . **straminea**

### **Eugnatha vermiformis Em.**

This species is somewhat rare. Length of female 12 mm. N. Y., N. Eng., L. I.

### **Eugnatha pallida Banks.**

The female has mandibles longer than *vermiformis*, the teeth are smaller than in *straminea*. The outer margin of the mandibles more like *vermiformis*.

One ♂ N. Y., 9 mm.; one ♂ N. Y. and one Fla. 7 mm.

One ♀ N. Y. and one Fla. 12 mm.; one ♀ Fla. 9.5 mm.

### **Eugnatha straminea Em.**

The abdomen of the female projects a little beyond the spinnerets but not once its diameter. Length of female 10 mm. N. Eng., N. Y., D. C., Mich.

### **Eucta.**

#### **Eucta caudata Em.**

The male is similar to the female but smaller, the tibial joint of the palpus not much longer than the patellar. This is rare in the north but quite common in Florida. — Can., N. Y., N. Eng., D. C., Fla.

The species of *Xysticus* may be arranged in three groups; those that have clavate hairs as *X. nigromaculatus* and *X. feroculus*; those that have pale line on the anterior legs as *X. gulosus*, *X. limbatus*, etc. Those without the pale line on legs as *X. nervosus*, etc.

**Coriarachne brunneipes** nov. sp.

Length ♀ 9 mm. ♂ 5 mm. Cephalothorax and legs dark red brown, metatarsi and tarsi paler. A few small white spots on the cephalothorax and one near tip of femur above, abdomen (♀) black above with a large ill-defined central mark of grayish white, the edges very ragged, abdomen (♂) is almost covered with white, three large black spots each side send out branches which ramify through the white, sternum (♀) pale with a central darker spot, (♂) wholly dark brown venter gray, in the ♂ more reddish brown. The whole body is very much depressed, more than in *C. versicolor*, the legs are slenderer than in that species, tibia I being over three times as long as broad. The abdomen is more elongate than in *C. versicolor*. The epigynum consists of a cavity much narrower behind, similar in plan to that of *Gnaphosa*, from the anterior margin there is a projection with a rounded posterior margin, which nearly covers the anterior portion of the cavity. The tibial joint of the palpus has a prominent lateral projection with a curved point, the tube is quite short.

This species is quite common in Washington State. (T. Kincaid.)

The genera of the Oxyopidæ may be readily separated as follows:

- |   |   |   |                   |
|---|---|---|-------------------|
| 1 | { | Mandibles higher than the cephalothorax . . . . .             | <b>Peucetia</b>   |
|   | { | Mandibles not as high as cephalothorax . . . . .              | 2                 |
| 2 | { | P. M. E. about half as far apart as P. S. E. . . . .          | <b>Oxyopes</b>    |
|   | { | P. M. E. much more than half as far apart as P. S. E. . . . . | <b>Hamataliwa</b> |

What Emerton calls *Oxyopes scalaris* Hentz (New England Lycosidæ) is not that species but is new. I have seen an adult female in Dr. Fox's collection which he obtained in New Hampshire.

**Oxyopes cinerea** nov. sp.

Length ♀ 8 mm. Cephalothorax and mandibles reddish brown, somewhat more brown on the sides and lighter in the middle, eyes on black spots, traces of dark lines reaching from the A. M. E. down upon the mandibles, maxillæ reddish brown, lip darker, sternum reddish brown, lighter in the middle, legs and palpi yellowish with darker reddish markings on base and tip of femora, and on base, middle and tip of tibiæ and metatarsi; abdomen dark gray, two diverging short white stripes near base, and two oblique spots on each side, further back a light stripe on each side of venter, a wide median black stripe from epigynum to spinnerets. Cephalothorax highest at eye-region straight and barely sloping until near the posterior margin where it suddenly drops, clypeus straight, legs spiny, abdomen widest near base, apex pointed, more stubby than the other species. The epigynum consists of a short rounded finger directed forward, somewhat like *O. salticus* but not pointed.

I have received, from Mr. Trevor Kincaid, another new species of this genus which he finds quite commonly in Washington State.

**Oxyopes rufipes** nov. sp.

Length ♀ 10 mm., ♂ 7 mm. Cephalothorax reddish, usually with a light median stripe, eyes on black spots, mandibles and maxillæ reddish, usually

there are faint lines reaching from the A. M. E. down upon the mandibles, sternum reddish brown on the sides, paler in the center; legs reddish, more yellow at tips, a few dark spots at the base of hairs, dorsum of abdomen reddish brown, often with a light median stripe enclosing a spear-mark at base, and a short light mark on each side near tip; venter yellowish with a broad median brown stripe, spinners brown. The ♂ is darker than the ♀. Sometimes the legs are a little banded. Cephalothorax highest at eye-region, gradually sloping concavely until near the posterior end, where it suddenly curves down; legs spiny, abdomen widest in front, tapering to apex; the epigynum consists of a rounded finger, somewhat similar to *O. cinerea* but more slender. Male palpal organ black, the tarsus is more slender than in the other species, the tibia has on the inner side a short pointed projection similar to *O. salticus*, the basal part of the palpal organ is more complicated than in that species.

The four species of *Oxyopes* may be separated by the following table:

1	{	Femora with a black line on under-side . . . . .	<b>salticus</b>
		Femora without a black line on under-side . . . . .	2
2	{	Abdomen light, with black side and median stripes . . . . .	<b>scalaris</b>
		Abdomen dark, with a few light spots . . . . .	3
3	{	Dorsum of cephalothorax straight, about as high in middle as in eye-region . . . . .	<b>cinerea</b>
		Dorsum of cephalothorax concave, higher in eye-region than in middle . . . . .	<b>rufipes</b>

## LOCAL ENTOMOLOGICAL NOTES.

Members of the New York Entomological Society and all others, are solicited to contribute to this column, their rare captures, local lists and other items of interest relating to the insect fauna of New York city and vicinity.

## LIST OF THE COLEOPTERA OF NORTH EASTERN AMERICA, WITH SPECIAL REFERENCE TO THE FAUNA OF NEW YORK CITY AND VICINITY.

BY CHARLES W. LENG AND WM. BEUTENMULLER.

(CONTINUED FROM PAGE 96.)

### SCHIZOGENIUS *Putz.*

**S. planulatus** *Lec.*—N. Y. Taken by Mr. Linell at Coney Island.

**S. lineolatus** *Say.*—N. E. Amer. Lives under stones along river banks, June and Sept. Not common in this vicinity.

**S. ferrugineus** *Putz.*—N. E. Amer. Occurs in salt marshes. Not common in this vicinity.

**S. amphibius** *Hald.*—N. Y., Mo. Taken in this vicinity by Mr. Wm. Jülich.